

REMARKS

Applicant has carefully studied the outstanding Office Action and considered the substance of the discussions during the multiple Examiner interviews. The present response is intended to be fully responsive to the rejection raised by the Office Action and is believed to place the application in condition for allowance. Further, the Applicants do not acquiesce to any of the Office Action rejections not particularly addressed. Favorable reconsideration and allowance of the application is respectfully requested. Support for the claim amendments may be found throughout the specification, and in particular on pages 8-10 and 64-77. Claim 48 has been amended for a grammatical error.

Claimed Invention

Claim 60 provides an exemplary claim of the present application. Claim 60 recites a method for providing dynamic services in a data communication system. The preamble of claim 60 for providing dynamic services in a data communication system recites "in a data communication system that includes a plurality of network devices, wherein the plurality of network devices includes first and second network devices, and wherein during initialization, communication system resources for carrying out session-based services are registered with and allocated by the second network device." The method for providing dynamic services comprises the steps of:

(i) the first network device sending to the second network device a service request to activate at least one deferred-session-based service between a service server associated with the second network device and a service device associated with the first network device, wherein each of the at least one deferred-session-based service comprises a service in which communication system resources are registered with, but not allocated

by the second network device until the at least one deferred session-based service is later activated, and activation of the at least one deferred-session-based service is operable to occur after a session is established between the first and second devices, and wherein the service request includes a deferred-inactive-service identifier that is registered with the second network device during initialization and associated with at least one deferred-session-based service; and

(ii) the first network device receiving from the second network device a service notification from the service server indicating that the at least one deferred-session-based service has been activated, wherein when the at least one deferred-session-based service is activated, a communication link is established between the first and second network devices, and wherein the communication link utilizes parameters associated with the plurality of capabilities of the first network device used for carrying out the at least one deferred-session-based service.

As part of the claimed invention, each pending claim in one way or another contains an element directed to the at least one deferred-session-based service. Each of the at least one deferred-session-based service comprises a service in which communication system resources are registered with, but not allocated by the second network device until the at least one deferred session-based service is later activated, and activation of the at least one deferred-session-based service is operable to occur after a session is established between the first and second devices. In addition, each pending claim contains an element directed to establishing or terminating a communication link between the first and second network devices, wherein the communication link utilizes parameters associated with the plurality of capabilities of the first network device for carrying out the at least one deferred-session-based service.

Section 102 Rejection

In the Office Action, the Examiner rejected Claims 31-45, 47-53, 56-58 and 60-66 under 35 U.S.C. §102(a) as being anticipated by “Data-over-Cable Service Interface Specification (“DOCSIS”) Radio Frequency Interface Specification (SP-RFI-I04-980724), hereinafter “DOCSIS”. The Applicants respectfully traverse the Examiner’s rejections of Claims 31-45, 47-53, 56-58, and 60-66 based on the foregoing amendments and the following Section 102 Remarks.

Section 102 Remarks

The Applicants respectfully submit that the claims as amended are not anticipated by *DOCSIS* because such reference does not show, describe or disclose, explicitly or inherently, the combination of elements of amended claims 31-66. The architecture of the high-speed data-over-cable systems covered by DOCSIS includes a Cable Modem Termination System (CMTS), a Cable Modem (CM), a Network-Side Interface (CMTS-NSI), a cable-modem-to-customer premises-equipment interface (CMCI). *DOCSIS*, at page 3.

“The intent [of the *DOCSIS* specification] is for the MCNS operators to transparently transfer IP traffic between these interfaces, including but not limited to datagrams, DHCP, ICMP, and IP Group addressing (broadcast and multicast).” *Id.* DOCSIS provides specifications for devices or processes of the high-speed data-over-cable systems, which allow MCNS operators to transparently transfer IP traffic through the high-speed data-over-cable systems.

The Applicants recognize that during registration (via negotiation with the CM) the CMTS registers and allocates or “grants” (that is, commits) the resources of the data-over-cable system to carry out session-based services. *See DOCSIS sections* (and subsections thereof) 6.3.2,

6.1.2.3, 6.4, and 7.2, along with the background (e.g., page 5, line 10 to page 6, line 19) of the present application.

The preamble and body of the amended claims reflect that session-based services, which are services for which communication system resources are allocated upon registration, are different from the deferred-session-based services. The Applicants submit that unlike the present claims, however, *DOCSIS* does not teach at least one deferred-session-based service between a service device associated with the first network device and a service server associated with the second network device. As claimed, each of the at least one deferred-session-based service comprises a service in which communication system resources are registered with, but not allocated by the second network device until the at least one deferred session-based service is later activated, and activation of the at least one deferred-session-based service is operable to occur after a session is established between the first and second devices.

The Applicants direct the Examiner to sections 6.1.2.3 and 6.3.2.3 in which the concepts of service identifiers and Upstream Bandwidth Allocation MAP (MAP) for session-based services are described. “The concept of Service IDs is central to the operation of the MAC protocol.” *DOCSIS* at page 47. “Service IDs provide both device identification and class-of-service management.” *Id.* “In particular, they are *integral to upstream bandwidth allocation.*” *Id.*(emphasis added) “A Service ID defines a particular mapping between a CM and the CMTS.” *Id.* This mapping is the *basis on which bandwidth is allocated* to the CM by the CMTS and by which class of service is implemented.” *Id.*(emphasis added)

“The CMTS MAY assign one or more Service IDs (SIDs) to each CM, corresponding to the classes of service required by the CM.” *Id.* This *mapping MUST be negotiated between the CMTS and the CM during CM registration.*” *Id.*(emphasis added) With reference to section

6.2.3.2 and in particular to Figure 6.19 and MAP informational elements (IE), the MAP defines the services granted at registration.

And although "the Service ID concept is expected to support the concept of 'data flows' on which protocols such as RSVP and RTP are based," the Applicants submit that the communication system resources for these data flows are not previously registered with CMTS nor are the resources allocated when the service is activated. *See DOCSIS section 9.2.2.* Rather, as described by section 9.2.2, RSVP assumes the implementation of two modules on each RSVP-capable node to forward data packets: the "packet classifier" and the "packet scheduler." *Id.* The packet classifier determines the route and class-of-service class for each packet, and sends the packet to the packet scheduler. *Id.* The RSVP packet classifier uses a "filter spec" (which matches a particular source IP address and TCP/UDP port number) to classify and restrict traffic that consumes reservation resources. *Id.* The packet scheduler makes packet forwarding decisions (e.g., queuing decisions) to achieve the promised class of service on the interface. The RSVP packet scheduler uses a "flow spec" (which identifies token bucket parameters, peak data rate, etc.) to identify the desired class of service. *Id.* In the context of RSVP for upstream traffic in the data-over-cable system, it is desirable for the CM to perform the "packet classifier" function; however, the CMTS should perform most of the "packet scheduler" function. *Id.* The support for this split of functions suggests the future definition of three new MAC management messages: "Dynamic Service Addition", "Dynamic Service Deletion", and "Dynamic Service Response." *Id.*

The Dynamic Service Addition message is periodically transmitted from the CMTS to the CM to announce the allocation of a new SID. *Id.* The Dynamic Service Addition message contains the new SID value, and type/length/value fields which can encode the RSVP filter

specification and RSVP “cleanup timeout” interval (to support the RSVP “*soft state*” approach).

Id.(emphasis added) Thus, the Applicants submit that in this soft-state approach the communication system resources for the service corresponding the “new SID” are not registered with the CMTS and then later allocated when activated. Further details of the interaction
5 between RSVP “Path” and “Resv” messages, and the Dynamic Service Addition and Dynamic Service Response messages are described in the remainder of DOCSIS section 9.2.2.

Moreover, the Applicants re-iterate that interactions with servers and other devices upstream or downstream from the architecture high-speed data-over-cable systems are outside of the scope of *DOCSIS*. As noted *DOCSIS* provides specifications for devices or processes in the
10 high-speed data-over-cable systems that allow MCNS operators to *transparently* transfer IP traffic through the high-speed data-over-cable systems. By the plain language of the claims, a service device associated with the first network device makes the service device different from first network device, otherwise there would be no reason to differentiate the terms. Similarly, a service server associated with the second network device makes the service server different from
15 the second network device, otherwise there would be no reason to differentiate these two terms. Thus, the at least one deferred-session-based service between the service device and the service server is not the same as a session-based service between the first and second network devices.

In light of the amendment and discussion, the Applicants submit that *DOCSIS* does not anticipate amended claims 31-66. As noted above, all the independent claims include the at least
20 one deferred-session-based service element. Some of the claims 31-66 are dependent claims, and as such, they necessarily include the elements of the independent claims from which they depend.

Section 103 Rejections

In the Office Action, the Examiner rejected Claims 46 and 54 under 35 U.S.C 103(a) as being unpatentable over DOCSIS. Further, the Examiner rejected Claims 55 and 59 under 35 U.S.C. 103(a) as being unpatentable over DOCSIS in view of U.S. Patent No. 6,337,858 to Petty et al ("Petty"). The Applicants respectfully traverse the Examiner's rejections of Claims 46, 54, 55 and 59 based on the following Section 103 Remarks.

Section 103 Remarks

Under 35 U.S.C. § 103, to support the conclusion that the claimed invention is directed to obvious subject matter, a reference must expressly or impliedly suggest the claimed invention.

10 *Ex parte Clapp*, 227 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985). The arguments from Section 102 Remarks are incorporated herein by reference. Neither the *DOCSIS* nor *Petty* references expressly or impliedly teach or suggest all the elements of the amended claims. The Applicants submit that unlike the present claims, neither *DOCSIS* nor *Petty*, alone or combined, teach at least one deferred-session-based service, as claimed. Each of the at least one deferred-session-
15 based service comprises a service in which communication system resources are registered with, but not allocated by the second network device until the at least one deferred session-based service is later activated, and activation of the at least one deferred-session-based service is operable to occur after a session is established between the first and second devices. Thus, either alone or combined the *DOCSIS* and/or *Petty* references do not teach or suggest the claimed
20 invention. Thus, for the reasons provided above, new claims 31-66 are allowable.

Applicant Initiated Interviews

In addition to the discussion above and in accordance with 37 C.F.R. §1.33(b), the Applicants make of record the substance of the interviews of July 16, 2003 and August 4, 2003. No agreement with respect to the pending claims was reached during either interview.

5 During the interview of July 16, 2003, the Applicants' representative discussed claims 31, 34, 37, 49, 56, 60, 62, 64, and 65. Specifically, the Applicants submit that *DOCSIS* does not anticipate these claims as discussed in the prior-filed Request for Continued Examination and noted above under the Section 102 Remarks. In addition, the Applicants' representative and the Examiner discussed additional claim elements that would appear to overcome the *DOCSIS* 10 reference. The Applicants' representative and Examiner discussed the relation of initialization of services to when the registration message occurs. The Applicants' representative and Examiner discussed the possibility of differentiating the service server from the claimed network device.

 During the interview of August 5, 2003, the Applicants' representative discussed formerly proposed claim 60 (which differs from the currently amended claim 60), and the scope of the 15 terms "adjunct" and "deferred-inactive-service identifier" in light of *DOCSIS* and cellular technologies. With respect to the outstanding Office Action, the Applicants submit that *DOCSIS* does not anticipate the formerly proposed claim 60 and the currently proposed claim 60 as discussed previously. The Examiner stated that the additional claim elements in the formerly proposed claim 60 would appear to overcome the *DOCSIS* reference. The Applicants submit 20 that the currently amended claims, including claim 60, are not anticipated by the *DOCSIS* reference and any cellular technology discussed.

Conclusion

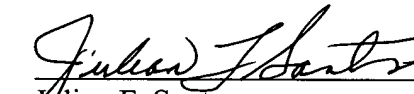
The Applicants submit that the application is in good and proper form for allowance, and respectfully request the Examiner to pass this application to issue. If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of this application, the
5 Examiner is invited to call the undersigned attorney, at 312-913-3304.

Respectfully submitted,

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